

## ABSTRACT

The legged mobile robot is configured such that the foot (22, 222, 223, 224) comprises a foot main body (22m, 222m, 223m, 224m) connected to each leg, a toe (22t, 222t, 223t, 224t) provided at a fore end of the foot main body to be bendable  
5 with respect to the foot main body, and a bending angle holder (damper 50, friction brake 60) capable of holding a bending angle ( $\theta_t$ ) of the toe in a bendable range of the toe. In addition, the legged mobile robot control system is configured to hold the bending angle of the toe at a first time point ( $t_1$ ) which is a liftoff time of the leg from a floor or earlier thereof, and to release the bending angle at a second time point ( $t_2$ ) after  
10 the leg has lifted off the floor to restore the toe to a initial position. With this, the bending angle at the time of liftoff can continue to be held after liftoff, whereby the robot can be prevented from becoming unstable owing to the toe contacting the floor immediately after liftoff. In addition, stability during tiptoe standing can be enhanced.